DMX REFERENCE

EclMiniFRFC

EclMiniFresnelFC

Prolights



Manufacturer	Prolights
GDTF file	Prolights_EclMiniFRFC_170506.gdtf
GDTF revision	Rev 016 - Reduced geometry - Updated photometrics - Custom attributes alignment · 2026-11-2
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1 About this manual

This document describes the EclMiniFresnelFC by Prolights. It was compiled from the GDTF file Prolights_EclMiniFRFC_170506.gdtf from the GDTF-Share library.

File revision: “Rev 016 - Reduced geometry - Updated photometrics - Custom attributes alignment”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by Prolights; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Weight	2.2 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Theater_1ch	1	512	1, 2, 3, 4, ...
Theater_2ch	2	256	1, 3, 5, 7, ...
Theater_3ch	3	170	1, 4, 7, 10, ...
Theater_4ch	4	128	1, 5, 9, 13, ...
Theater_5ch	5	102	1, 6, 11, 16, ...
Theater_9ch	9	56	1, 10, 19, 28, ...
Theater_14ch	14	36	1, 15, 29, 43, ...
Theater_17ch	17	30	1, 18, 35, 52, ...
Tour_4ch	4	128	1, 5, 9, 13, ...
Tour_6ch	6	85	1, 7, 13, 19, ...
Tour_7ch	7	73	1, 8, 15, 22, ...
Tour_9ch	9	56	1, 10, 19, 28, ...
Tour_12ch	12	42	1, 13, 25, 37, ...


Read the manual before use


Do not stare into the light


Indoor use only

3 Safety instructions



Read the manual before use



Do not stare into the light



Indoor use only

⚠ WARNING

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

⚠ WARNING

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

⚠ CAUTION

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

⚠ CAUTION

- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them longer than necessary.

4 Product description

Description in the GDTF file

“EclMiniFresnel FC is an advanced LED replacement for the traditional 300W Fresnel lamps. Offering 4 colour mixing, delivering high precision reproduction of the white spectrum from 2.800 K to 8.000 K with extensive colour reproduction. The optical system harnesses the power of a 70W custom LED with

4 colours to create an even projection, beautiful colours and precise whites. Featuring HD dimming and tuning from 2.800 K to 8.000 K version, the EclMiniFresnel FC delivers the performance and quality of output demanded from this level of light.”

5 Installation

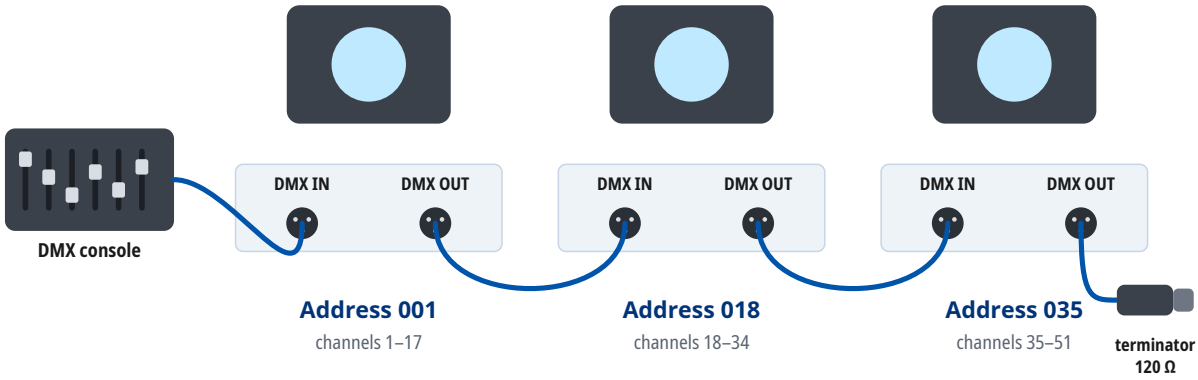
⚠ **WARNING**

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 2.25 kg.
- Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
- Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
- During installation and removal, keep people out of the area below the work position.
- Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

DMX line



Mode Theater_17ch: every unit occupies 17 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Theater_17ch”: 17.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “Theater_17ch”, you can use, for example, the start addresses 1, 18, 35, 52.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

8 Functions at a glance

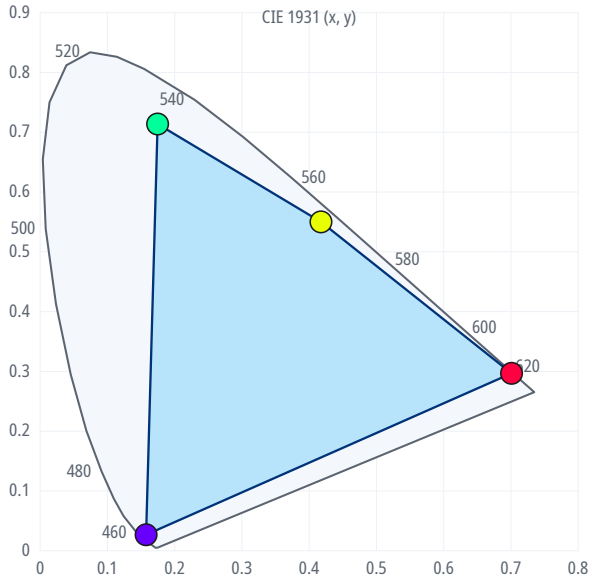
Functions in each DMX mode

	Theater_ 1ch 1 channel	Theater_ 2ch 2 channels	Theater_ 3ch 3 channels	Theater_ 4ch 4 channels	Theater_ 5ch 5 channels	Theater_ 9ch 9 channels	Theater_ 14ch 14 channels	Theater_ 17ch 17 channels
Dimmer	1	1	1	1	1	1	1	1
Dimmer resolution	8 bit	8 bit	8 bit	8 bit	8 bit	8 bit	16 bit	16 bit
Shutter / strobe				3	3	7	12	3
Color mixing						2–5	4× (3–9)	4× (7–13)
Color temperature			2	2	2	6	11	4
Effects / macros					4	8	13	15

Color wheel



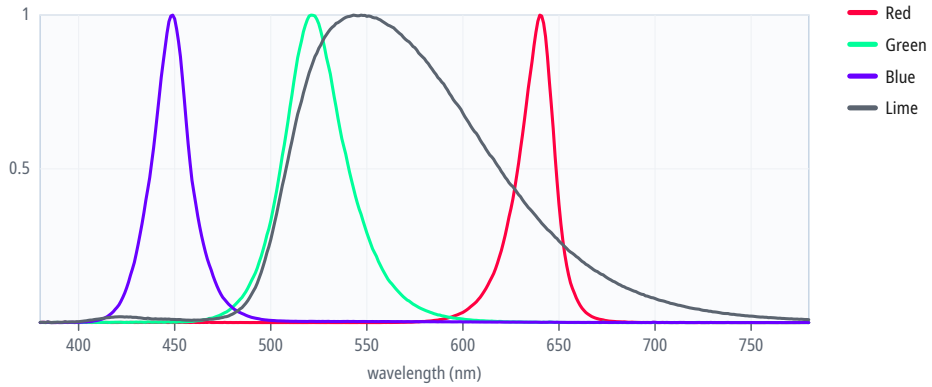
LED colors and the colors they mix



LED	x	y	nm
Red	0.701	0.297	626
Green	0.175	0.714	527
Blue	0.158	0.027	452
Lime	0.417	0.550	567

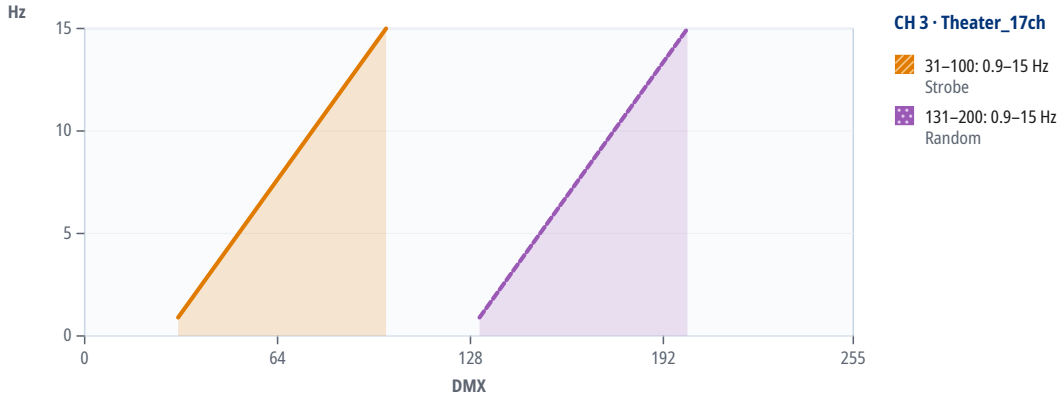
The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

Spectra of the light sources



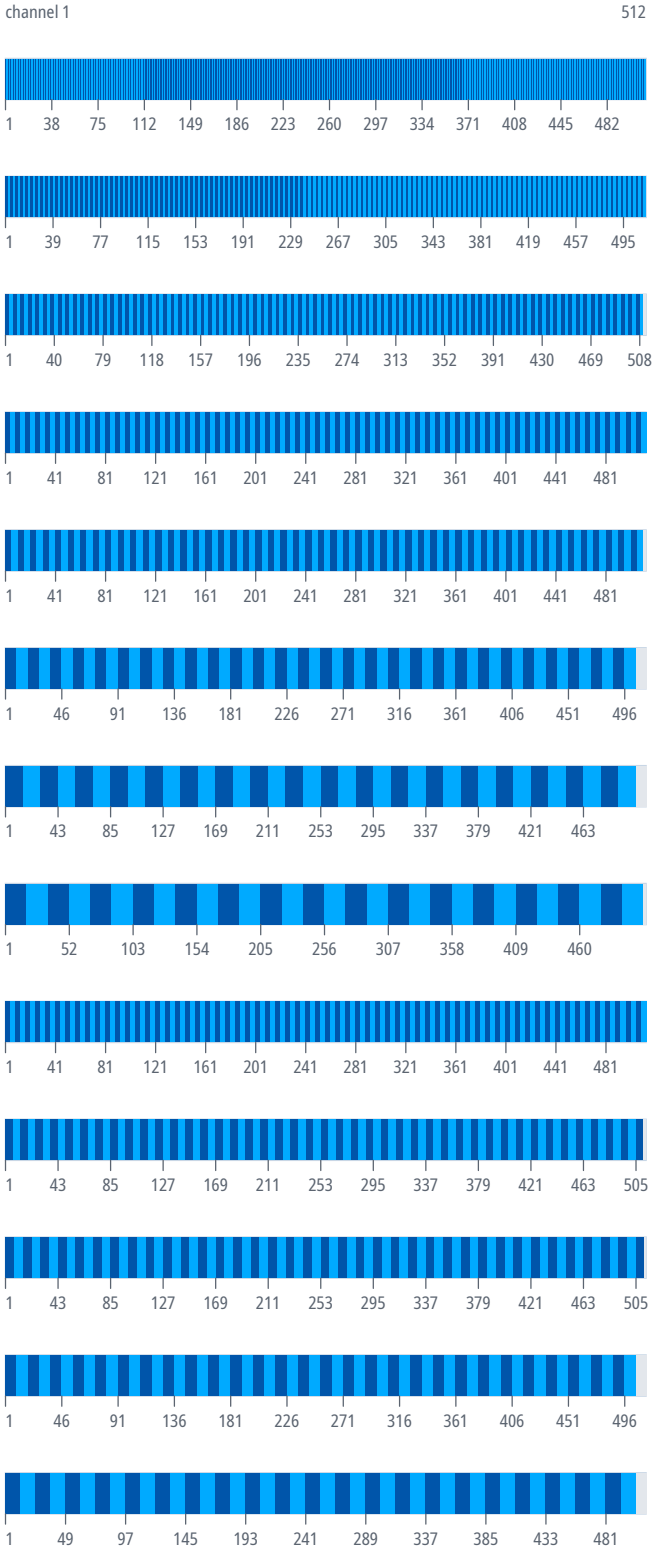
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate


Hz
15
10
5
0
0
64
128
192
255
DMX
CH 3 · Theater_17ch
31–100: 0.9–15 Hz
Strobe
131–200: 0.9–15 Hz
Random

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Theater_17ch”

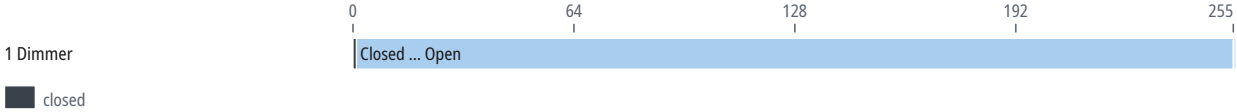
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address

1	1	6	86	11	171	16	256
2	18	7	103	12	188	17	273
3	35	8	120	13	205	18	290
4	52	9	137	14	222	19	307
5	69	10	154	15	239	20	324

Mode Theater_1ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance

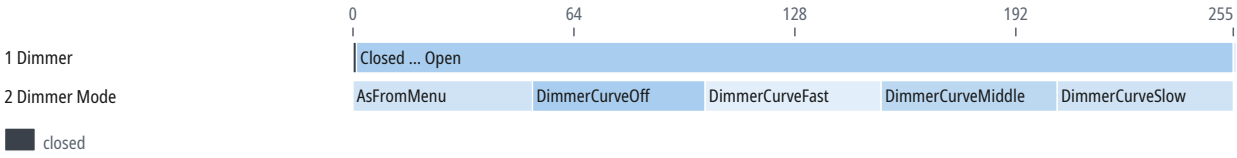


CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open

Mode Theater_2ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance

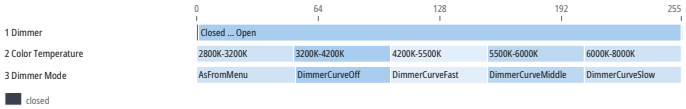


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_1ch” (p. 9)
2	Dimmer Mode	0–51	AsFromMenu
		52–101	DimmerCurveOff
		102–152	DimmerCurveFast
		153–203	DimmerCurveMiddle
		204–255	DimmerCurveSlow

Mode Theater_3ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance

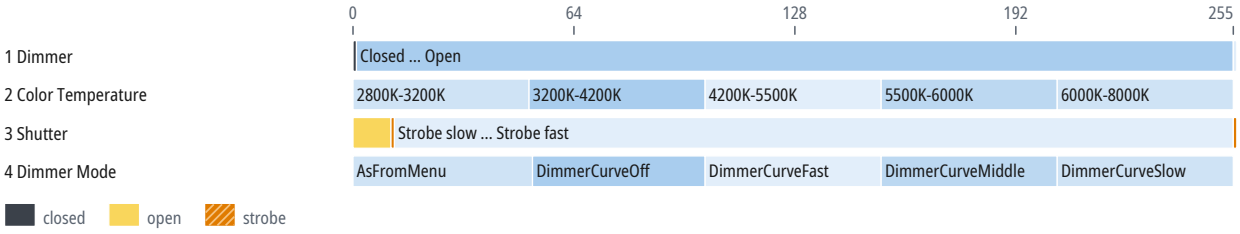


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_1ch” (p. 9)
2	Color Temperature	0–50	2800K-3200K (2800–3199 K)
		51–101	3200K-4200K (3200–4199 K)
		102–152	4200K-5500K (4200–5499 K)
		153–203	5500K-6000K (5500–5999 K)
		204–255	6000K-8000K (6000–8000 K)
3	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Theater_4ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 3 Shutter at 0–10 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Shutter 0.

Channel functions at a glance

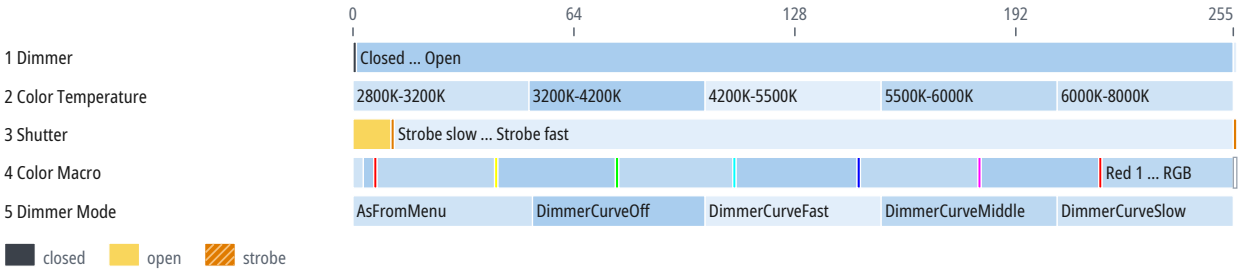


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_1ch” (p. 9)
2	Color Temperature		Same as CH 2 in the mode “Theater_3ch” (p. 10)
3	Shutter	0–10	Open
		11	Strobe slow
		12–254	Strobe slow ... Strobe fast
		255	Strobe fast
4	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Theater_5ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 3 Shutter at 0–10 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Shutter 0.

Channel functions at a glance



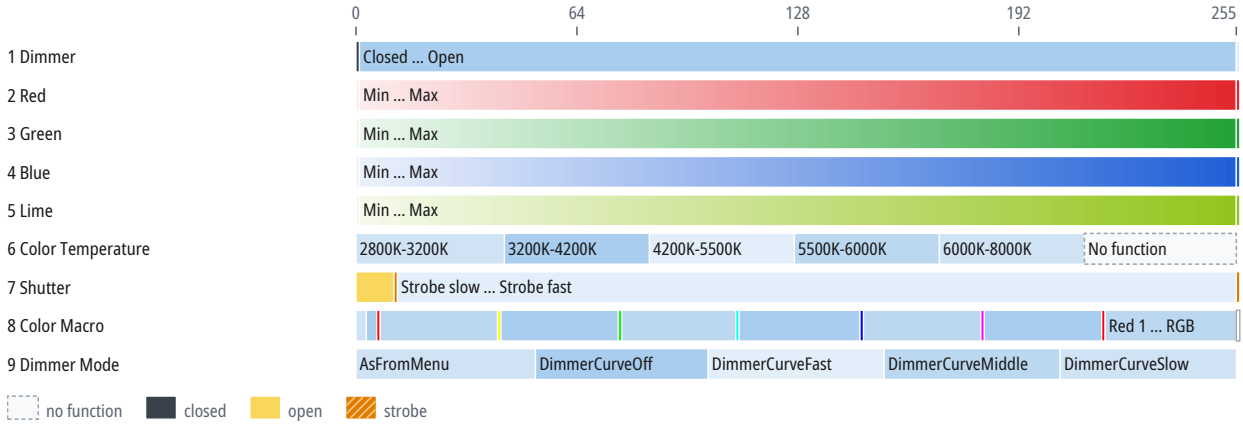
CH	Function	DMX	Description

1	Dimmer		Same as CH 1 in the mode “Theater_1ch” (p. 9)
2	Color Temperature		Same as CH 2 in the mode “Theater_3ch” (p. 10)
3	Shutter		Same as CH 3 in the mode “Theater_4ch” (p. 10)
4	Color Macro	0–2	No Function
		3–5	Amber Shift On
		6	Red
		7–40	Red ... Red+Green
		41	Red+Green
		42–75	Red+Green ... Green
		76	Green
		77–109	Green ... Green + Blue
		110	Green + Blue
		111–145	Green + Blue ... Blue
		146	Blue
		147–180	Blue ... Blue + Red
		181	Blue + Red
		182–215	Blue + Red ... Red 1
		216	Red 1
		217–254	Red 1 ... RGB
		255	RGB
5	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Theater_9ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 7 Shutter at 0–10 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 7 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_1ch” (p. 9)
2	Red	0	Min
		1–254	Min ... Max
		255	Max

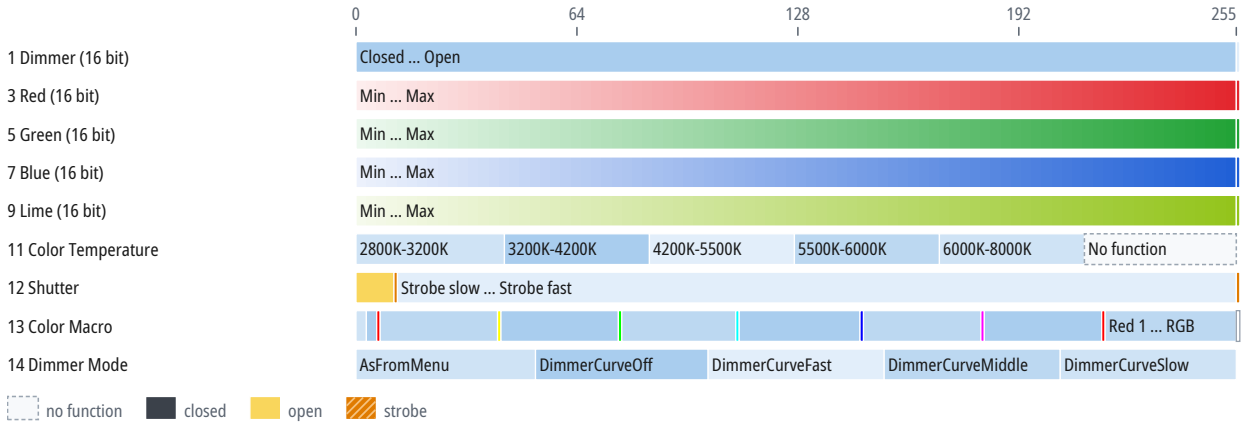
CH	Function	DMX	Description
3	Green	0	Min
		1–254	Min ... Max
		255	Max
4	Blue	0	Min
		1–254	Min ... Max
		255	Max
5	Lime	0	Min
		1–254	Min ... Max
		255	Max
6	Color Temperature	0–42	2800K-3200K (2800–3199 K)
		43–84	3200K-4200K (3200–4199 K)
		85–126	4200K-5500K (4200–5499 K)
		127–168	5500K-6000K (5500–5999 K)
		169–210	6000K-8000K (6000–8000 K)
		211–255	No function
7	Shutter		Same as CH 3 in the mode “Theater_4ch” (p. 10)
8	Color Macro		Same as CH 4 in the mode “Theater_5ch” (p. 11)
9	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Theater_14ch

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 12 Shutter at 0–10 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 12 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0–255	Closed ... Open
		255	Open
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Red	0–255	Min ... Max
		255	Max

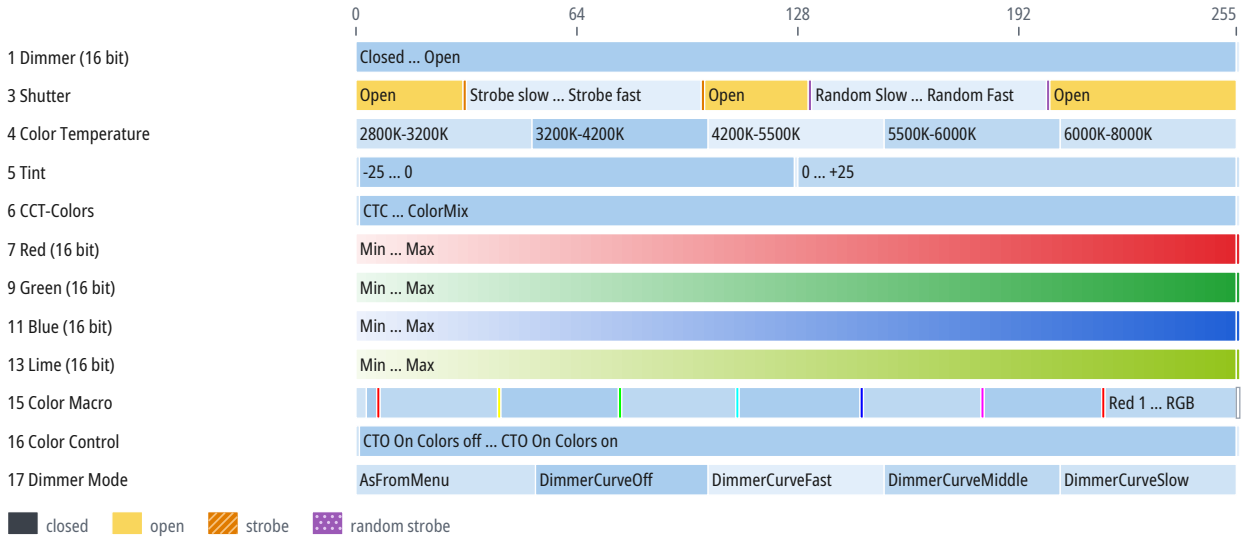
CH	Function	DMX	Description
4	Red Fine	0–255	Fine adjustment of CH 3
5	Green	0–255	Min … Max
		255	Max
6	Green Fine	0–255	Fine adjustment of CH 5
7	Blue	0–255	Min … Max
		255	Max
8	Blue Fine	0–255	Fine adjustment of CH 7
9	Lime	0–255	Min … Max
		255	Max
10	Lime Fine	0–255	Fine adjustment of CH 9
11	Color Temperature		Same as CH 6 in the mode “Theater_9ch” (p. 12)
12	Shutter		Same as CH 3 in the mode “Theater_4ch” (p. 10)
13	Color Macro		Same as CH 4 in the mode “Theater_5ch” (p. 11)
14	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Theater_17ch

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 3 Shutter at 0–30, 101–130 or 201–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Shutter 0.

Channel functions at a glance

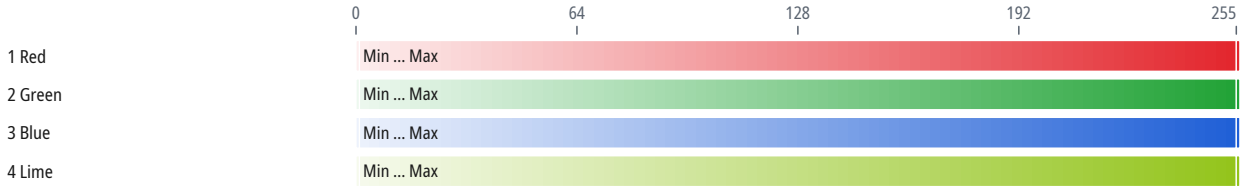


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_14ch” (p. 12)
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Shutter	0–30	Open
		31	Strobe slow
		32–99	Strobe slow … Strobe fast
		100	Strobe fast

CH	Function	DMX	Description
3	Shutter (continued)	101–130	Open
		131	Random Slow
		132–199	Random Slow ... Random Fast
		200	Random Fast
		201–255	Open
4	Color Temperature		Same as CH 2 in the mode “Theater_3ch” (p. 10)
5	Tint	0	-25
		1–126	-25 ... 0
		127	0
		128–254	0 ... +25
		255	+25
6	CCT-Colors	0	CTC
		1–254	CTC ... ColorMix
		255	ColorMix
7	Red		Same as CH 3 in the mode “Theater_14ch” (p. 12)
8	Red Fine	0–255	Fine adjustment of CH 7
9	Green		Same as CH 5 in the mode “Theater_14ch” (p. 13)
10	Green Fine	0–255	Fine adjustment of CH 9
11	Blue		Same as CH 7 in the mode “Theater_14ch” (p. 13)
12	Blue Fine	0–255	Fine adjustment of CH 11
13	Lime		Same as CH 9 in the mode “Theater_14ch” (p. 13)
14	Lime Fine	0–255	Fine adjustment of CH 13
15	Color Macro		Same as CH 4 in the mode “Theater_5ch” (p. 11)
16	Color Control		CTO 1
		0	CTO On Colors off
		1–254	CTO On Colors off ... CTO On Colors on
		255	CTO On Colors on
17	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Tour_4ch

Channel functions at a glance

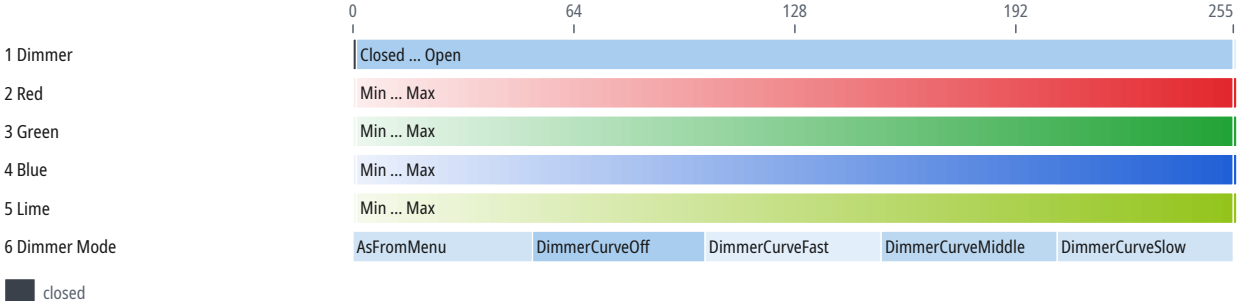


CH	Function	DMX	Description
1	Red		Same as CH 2 in the mode “Theater_9ch” (p. 11)
2	Green		Same as CH 3 in the mode “Theater_9ch” (p. 12)
3	Blue		Same as CH 4 in the mode “Theater_9ch” (p. 12)
4	Lime		Same as CH 5 in the mode “Theater_9ch” (p. 12)

Mode Tour_6ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance

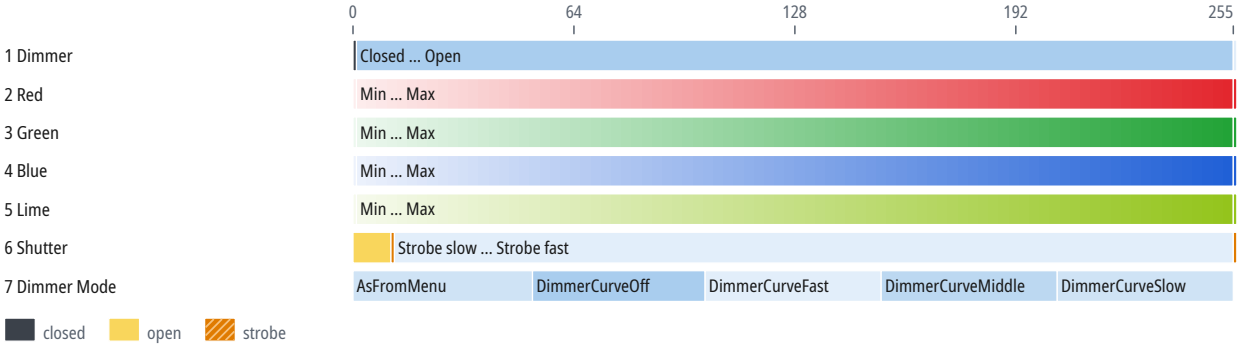


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_1ch” (p. 9)
2	Red		Same as CH 2 in the mode “Theater_9ch” (p. 11)
3	Green		Same as CH 3 in the mode “Theater_9ch” (p. 12)
4	Blue		Same as CH 4 in the mode “Theater_9ch” (p. 12)
5	Lime		Same as CH 5 in the mode “Theater_9ch” (p. 12)
6	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Tour_7ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 6 Shutter at 0–10 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 6 Shutter 0.

Channel functions at a glance

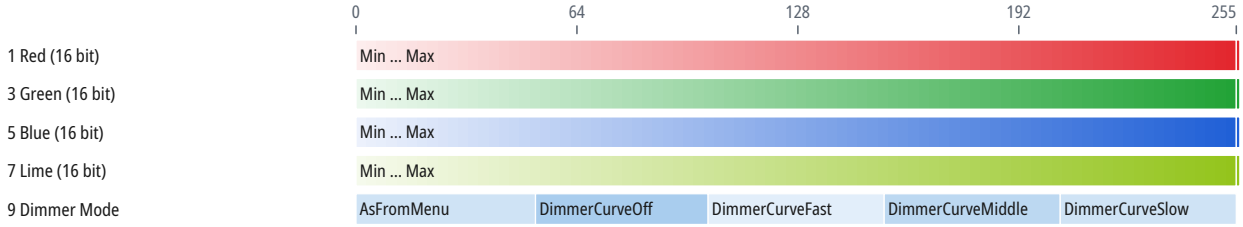


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_1ch” (p. 9)
2	Red		Same as CH 2 in the mode “Theater_9ch” (p. 11)
3	Green		Same as CH 3 in the mode “Theater_9ch” (p. 12)
4	Blue		Same as CH 4 in the mode “Theater_9ch” (p. 12)
5	Lime		Same as CH 5 in the mode “Theater_9ch” (p. 12)
6	Shutter		Same as CH 3 in the mode “Theater_4ch” (p. 10)
7	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Tour_9ch

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

Channel functions at a glance



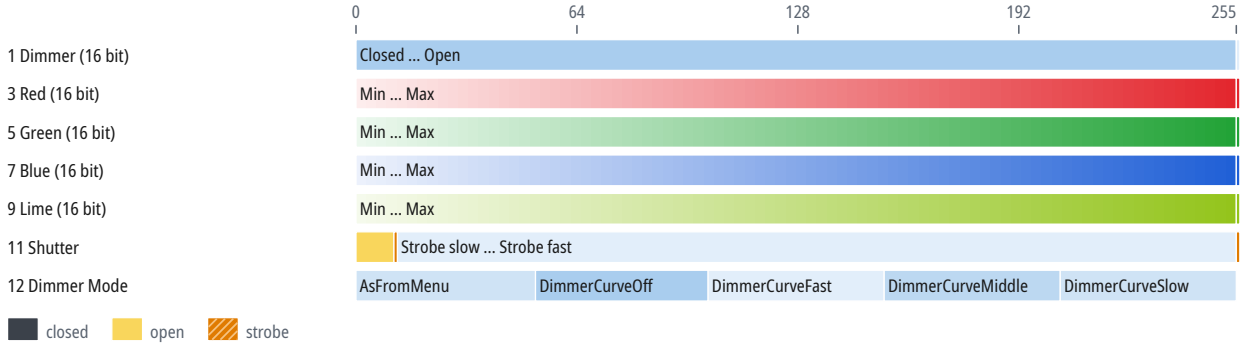
CH	Function	DMX	Description
1	Red		Same as CH 3 in the mode “Theater_14ch” (p. 12)
2	Red Fine	0–255	Fine adjustment of CH 1
3	Green		Same as CH 5 in the mode “Theater_14ch” (p. 13)
4	Green Fine	0–255	Fine adjustment of CH 3
5	Blue		Same as CH 7 in the mode “Theater_14ch” (p. 13)
6	Blue Fine	0–255	Fine adjustment of CH 5
7	Lime		Same as CH 9 in the mode “Theater_14ch” (p. 13)
8	Lime Fine	0–255	Fine adjustment of CH 7
9	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

Mode Tour_12ch

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 11 Shutter at 0–10 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 11 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Theater_14ch” (p. 12)
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Red		Same as CH 3 in the mode “Theater_14ch” (p. 12)
4	Red Fine	0–255	Fine adjustment of CH 3
5	Green		Same as CH 5 in the mode “Theater_14ch” (p. 13)
6	Green Fine	0–255	Fine adjustment of CH 5

CH	Function	DMX	Description
7	Blue		Same as CH 7 in the mode “Theater_14ch” (p. 13)
8	Blue Fine	0–255	Fine adjustment of CH 7
9	Lime		Same as CH 9 in the mode “Theater_14ch” (p. 13)
10	Lime Fine	0–255	Fine adjustment of CH 9
11	Shutter		Same as CH 3 in the mode “Theater_4ch” (p. 10)
12	Dimmer Mode		Same as CH 2 in the mode “Theater_2ch” (p. 9)

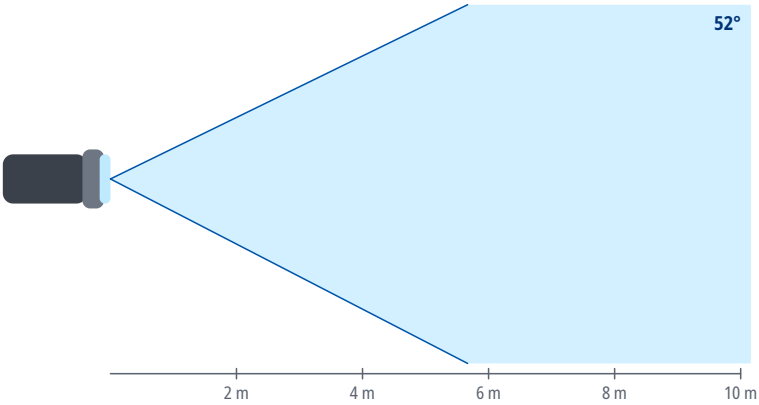
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	24 W
Luminous flux	739 lm
Color temperature	6,500 K
Color rendering index (CRI)	82
Optics	
Beam angle	52°
Control	
DMX connection	5-pin XLR IN/OUT
RDM	yes (manufacturer ID 0x15D0, device model ID 0xD032)
Dimensions and construction	
Weight	2.2 kg
Operating environment	
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2800–8000 K
Strobe frequency	0.9–15 Hz

Spot diameter



Distance	Ø 52°
2 m	2 m
4 m	3.9 m
6 m	5.9 m
8 m	7.8 m
10 m	9.8 m
15 m	14.6 m

Spot diameter square to the beam axis, calculated from the beam angle.

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner

intended for optics or glass.

- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.